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ABSTRACT

This study examines in detail a sample of widely used teacher guides in order to describe a picture of instruction as it is represented in these guides and to compare it with classroom practices. Mathematics and social studies were selected as the subject areas because of observed differences in classroom practices. Six questions guided the analyses, concerning types of grouping arrangements, instructional formats, student behaviors, student cognitive processes, types of materials, and instructional recommendations. Five fifth-grade teacher's guides in mathematics and five in social studies were examined. Within each guide, two portions of the commentary section were analyzed, each representing an instructional sequence of approximately two weeks' duration. The activities in each portion of the lesson commentaries were identified and coded. A total of 506 mathematics activities and 399 social studies activities were found. Ninety-four percent of these were entire-class activities. Although traditional instruction patterns were common in the activities suggested in the guides of both subjects, differences did occur both between and within subject areas. An active student role seemed to be encouraged more in social studies than in mathematics and more in some social studies series than in others. (MNS)

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Instructional Practice in Fifth-Grade Math and Social Studies: An Analysis of Teacher's Guides

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Abstract

Student texts and teacher's guides are familiar objects in American classrooms. These curriculum materials have great potential for influencing the nature of instruction. Yet systematic analyses of teacher's guides, in particular, are rare.

Descriptive classroom studies suggest that American instruction is quite traditional - in grouping arrangements, instructional formats, student behaviors, and cognitive levels. More instructional variety, though, has been observed in fifth-grade social studies than in math.

In this study, a popularity sample of fifth-grade teacher's guides - five in math and five in social studies - is examined for recommendations regarding the conduct of instruction. Content analysis is used to code various instructional features of suggested activities. Instructional practice, as it emerges from the materials, is summarized and compared to the overall findings of descriptive studies.

Although traditional instructional patterns are common in the activities suggested in the teacher's guides of both subjects, differences do occur - both between and within subject areas. An active student role seems to be encouraged more in social studies than in math and more in some social studies series than in others. Of note, too, is the substantial proportion of more unusual activities which are suggested as optional. Clearly, the subject matter, the particular series, and the teacher's use of a particular series all can play a large part in influencing the character of classroom instruction.

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Instructional Practice in Fifth-Grade Math and Social Studies: An Analysis of Teacher's Guides

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Paper presented at the annual meeting of the American Educational Research Association, San Francisco, April 1986. Support for this study was provided by the Spencer Foundation.

Textbooks are among the most commonly-used student materials in American classrooms (Goodlad, 1984; McCutcheon & Burton, 1981). Student texts, and their accompanying teacher's guides, are widely-used teacher resources for selecting student activities and content (Clark & Yinger, 1979; McCutcheon, 1981). In short, these curriculum materials have great potential for influencing the nature of classroom instruction. Yet, the analysis of curriculum materials, teacher's guides in particular, seems to be a relatively unexplored field of study.

Our own interest in the study of curriculum materials grew out of the results of descriptive studies of classroom instruction. Whether conducted at local levels (e.g. McCutcheon & Burton, 1981; Stodolsky, 1983) or on a nationwide basis (e.g. Goodlad, 1984; Weiss, 1978), these studies have yielded fairly consistent findings. American classrooms appear traditional in many respects. The typical grouping arrangement is whole-class; the most common instructional formats are recitation and seatwork; student behaviors are often limited to listening to teachers, reading texts, and writing answers; and the cognitive levels of student activities are relatively low.

How do curriculum materials contribute to this pattern of findings? Are most of the suggested activities in teacher's guides consistent with traditional instructional practice? The current study examines in detail a sample of widely-used teacher guides. Our major intent is to describe the picture of instruction that emerges from these materials and to compare it, at a general level, with the classroom picture described above.

Stodolsky's findings, regarding fifth-grade math and social studies instruction, provided an interesting focus for our study. Within an overall pattern of traditional classroom practice, Stodolsky found striking subject matter variation (Stodolsky, 1983). In comparison with math, social studies instruction was marked by a wider variety of instructional formats, student

behaviors, materials, and levels of cognitive processes. Largely on the basis of such results, we formulated a number of specific questions for an analysis of fifth-grade math and social studies teacher's guides:

1) What types of grouping arrangements are suggested?

2) What kinds of instructional formats are emphasized?

3) What kinds of student behaviors are expected?

4) What levels of student cognitive processes are sought?

5) What types of materials are recommended?

6) Do instructional recommendations vary between subjects?

Stodolsky's earlier work also suggested an appropriate framework for our current study - namely, a "classroom activity structure" framework. Accordingly, our analysis of teacher's guides centers on the identification of suggested activities and the characterization of those activities with regard to various instructional properties, such as grouping arrangements and formats.

Method

Sample

Teacher's Guides. Ten fifth-grade level teacher's guides - five in math and five in social studies - are examined in our study (see Appendix A). These materials represent the five most widely-used upper elementary series in each subject area during the mid to late 70's (the dates of the descriptive studies which prompted our investigation). The results of the 1977 National Science Foundation survey (Weiss, 1978) were used to identify this popularity sample. Copies of the teacher's guides were obtained from various sources - libraries, used book companies, and textbook authors.

Activities. Each teacher's guide contains a large commentary section which gives specific recommendations for conducting lessons throughout the school year. These lesson commentaries are the target of our activity structure analysis. Within each teacher's guide, two portions of the commentaries were selected for analysis. Each portion represents an instructional sequence of approximately two weeks' duration, at two randomly-chosen points in the school calendar: weeks 15-16 and weeks 25-26. The teacher's guide pages, in each series, which correspond to the two instructional sequences appear in Appendix A. These pages, containing about ten percent of the lessons in each teacher's guide, provided the sample of activities for our study.

Procedure

The activity is the basic unit of analysis in our study. This unit is similar to Stodolsky's "activity segment" (cf. Stodolsky, 1983). Briefly, an activity segment is a unique part of a lesson, marked by a particular instructional format, participants, materials, behavioral expectations and goals, and space-time boundaries.

A two-step content analysis procedure was used to identify, and record information on, the activities in each portion of the lesson commentaries. First, the commentary was segmented into suggested activities. Then, the instructional features of each identified activity were coded, using the Activity Coding Sheet (ACS) - an instrument developed specifically for our study. Grouping arrangement, instructional format, student behavior, expected cognitive level of student activities, and use of materials were the major instructional features investigated.

The coding categories for the ACS variables were adapted from those used in Stodolsky's observational study of classrooms (Stodolsky, 1983). During the piloting of the ACS, coding categories were modified as necessary. The most frequent modification was the addition of some "catch-all" categories. An instructional format category called "global teacher academic presentation," for example, was created to cover lesson commentary entries which suggest, not

a single teacher-led format (i.e. recitation, discussion, lecture, or demonstration), but more than one of these formats. Such entries may be very vague (e.g "Review with the children any topics from the chapter with which they may have had special difficulty.") or highly-specified (e.g. "Study carefully with the children the material in exercises 1 and 2. Exhibit on the chalkboard the division 262 divided by 6 and go through each of the steps ..., giving the children an opportunity to explain what is happening ... Use other examples to show how the inequalities are related to the division problem. Ask: How many fives are in 437? ... You may need to demonstrate other problems...Emphasize that the first estimate should be less than the dividend...").

Our piloting of the ACS also suggested variables unique to an analysis of teacher's guides. The major such varieble is priority of activity. This varieble typically is not relevent in an observational classroom study - i.e. observers "simply" record the activities that take place. In teacher's guides, however, activities can occur at two levels of priority - "core" and "optional." Core activities are suggested in the main body of lessons, while optional activities are typically denoted as "Followup", "Extension", or "Additional Activities."

In addition to characterizing activities on the basis of lesson commentary entries, the ACS was used to record information about the student text pages which accompanied some activities. Such information included length of text passages, length of text exercises, and cognitive levels of text questions.

Appendices B, C, and D present more detailed information about the ACS. The ACS itself is reproduced in Appendix B, while the coding categories for major variables are listed and defined in Appendix C. Appendix D contains intra-rater and inter-rater reliability results. Complete information on the ACS is available from the first author.*

* Appendices available on request.

Results

A total of 905 activities - 506 in math and 399 in social studies - were identified in the sampled pages of the teacher's guides. Most of these activities (94% in each subject area) are entire-class activities, which are likely to involve the participation of all students in a class. Subgroup activities, those explicitly recommended for "some" students, comprise the other 6% of activities in each subject.

Findings for each major variable will be presented in turn. First, we will look at global subject matter results - i.e. findings will be aggregated across series in math and in social studies. Then, differences among the series within each subject area will be examined. Finally, priority of activities, as it relates to other major variables, will be discussed. Since results from the two instructional sequences (weeks 15-16 and weeks 25-26) were very similar, all of the data presented here will be summed over time points.

Grouping Arrangement. The vast majority of entire-class activities in both subject areas (96% in math and 94% in social studies) appear likely to be conducted in a whole-class grouping arrangement, with the teacher actively leading the activity or with students working independently. In only about 4% of the entire-class activities for each subject is it suggested that students work in self-directed peer work groups (PWG's). Similarly, among subgroup activities, most of the grouping arrangements involve either teacher-led work or independent student work. Social studies subgroups, however, do seem more likely than math subgroups to involve PWG's: 21% of the subgroup activities in social studies, vs. 6% of those in math, are characterized by PWG arrangements.

The expected duration of PWG arrangements, whether entire-class or subgroup activities, also varies between subjects. 91% of the math PWG activities appear likely to be of short duration (i.e. less than one class period). In contrast, 52% of social studies PWG activities involve projects which may extend over several days. If such activities were actually used in a

social studies classroom, the percentage of observed PWG's, in comparison to other grouping arrangements, could be considerably larger than that found in our teacher guide data.

Instructional Formats. Table 1 presents information about the instructional formats of activities, for each subject area and each teacher's guide. Instructional formats of recitation and/or seatwork are found in about half of the activities in each subject. For both math and social studies, seatwork (SW) comprises roughly 30% of all observed instructional formats, recitation about 12%, and "recitation or SW" about 8%.

Accounting for another 20% of the activities in each subject area is the global format of "teacher presentation," a format which usually includes recitation characteristics. When other variables (such as level of expected student interaction) are examined in the subset of teacher presentation activities, however, the nature of this global format appears to differ between subjects. Social studies teacher presentations seem more likely to include the possibility of discussion (in which student opinions and ideas are sought): 78% of the global teacher presentations in social studies, vs. 24% of those in math, have such characteristics.

Typical of global teacher presentations in math are the two examples cited earlier, in the Procedure section: 1) a general review activity or 2) a more highly-specified developmental activity which combines elements of a demonstration and a recitation. In contrast, social studies teacher presentations often combine recitation and discussion characteristics, with students being asked to contribute their own ideas, in addition to some "right answers." One such presentation (on the concept of industrialization), for example, includes questions at two levels: "fact/concept" questions which involve student recall or comprehension of text material ("Do you remember what ... pioneer means?") and "higher level" discussion questions which call for original student thought or speculation about text concepts ("What would be the advantages of specializing in making one product instead of trying to make everything you needed yourself?").

Similarly, formats characterized solely as discussion occur more often in social studies than

in math. The discussion format accounts for 11% of the social studies activities and only 2% of the math activities. Often, the topic of social studies discussions centers around the students' own experiences (e.g. "Ask the pupils if they have ever been on a camping or hiking trip ... surviving on just what they could provide for themselves. Have the pupils discuss the problems of trying to be independent.").

Student presentation is another format which appears nearly unique to social studies, comprising nearly 9% of the instructional formats in social studies and just 0.6% of those in math. Several other formats - checking work, teacher demonstrations, and games - seem specific to math. Each of these formats, accounting for 4.5% to 7% of the math activities, occurs in less than 1% of the social studies activities.

Student Role. Results for student behavior are displayed in Table 2. In keeping with the subject matter variation in instructional formats, discussing is a student behavior found largely in social studies (12% of social studies activities vs. 2% of math activities). Checking work, meanwhile, is a behavior unique to math, occurring in 6.5% of math activities and 0.3% of social studies activities.

Between-subject matter differences also appear in the kinds of student behaviors expected during activities with the same instructional formats. Math seatwork, for example, typically calls for students to solve sets of text problems. Solving (or writing short answers) is the most frequent student behavior in math, characterizing about 33% of all activities. This behavior occurs in just 2% of all social studies activities. Instead, social studies seatwork activities usually involve answering essay-type questions (writing) or doing research using reference materials - behaviors which occur in less than 1% of the math activities. Writing accounts for 6.5% of all student behaviors in social studies, while research characterizes about 15%.

Recitations and teacher presentations, too, are often marked by subject-specific student behaviors. One of the most frequent student behaviors during these formats in social studies

(found in 16% of all activities) is reading the text, intermingled with question/answer or discussion periods. This particular student behavior does not occur at all in math. Rather, math recitations and teacher presentations make use of several behavior patterns which are unique to math - 1) students solving problems intermixed with question/answer periods (5% of all math activities), or 2) some students solving problems at the blackboard while other students watch (4% of all math activities).

In addition, subject matter variation appears in several other variables related to the student's role, including expected interaction and task options. Some student interaction is recommended explicitly in only about 11% of the math activities and 8% of the social studies activities. The possibility of student interaction, however, exists in approximately 80% of the social studies activities vs. about 60% of the math activities. Similarly, students seem to be offered more options during social studies work than during math work. Some opportunity for student designation of task options - e.g. choice of materials or topics - occurs in about 27% of the social studies activities and just 9% of the math activities.

Cognitive Level. Table 3 provides information regarding the expected cognitive levels of the math and social studies activities. The distribution of activities across cognitive levels appears quite different for the two subjects. Nearly 80% of the math activities fall into the category of "concepts-skills." About seven percent of the math activities are classified at the level of either "facts-knowledge" or "research skills" (3 to 4% in each category) and 13% are categorized as "application-higher mental processes (APP-HMP)." Social studies activities are more evenly distributed across these four categories, with 21.3% to 27.6% falling into each classification. Few activities in either subject are classified as "non-cognitive" (0.6% in math and 1.7% in social studies).

Subject matter differences are found, too, in a more detailed analysis of the cognitive levels within some of the broad categories presented in Table 3. The "concepts-skills" (C-S) category,

for example, can be broken down into three subcategories in order to distinguish between those activities which emphasize concepts, those which emphasize skills, and those which combine concepts and skills. At this finer level, it becomes apparent that most of the math C-S activities have some skills orientation (41.5% of the C-S activities can be classified as "skills," and another 38.5% combine concepts and skills). In contrast, the majority of C-S activities in social studies (85.4%) emphasize the learning or comprehension of concepts.

Activities at the level of research skills can be subdivided also - into those which call for working with reference materials (encylopedias, newspapers, etc.) and those which involve using symbolic data (maps, graphs, tables, etc.). Here again, we find variation between subjects. As might be expected, the majority of math "research skills" activities (77%) involve the use of symbolic data, while the most of those in social studies (70%) emphasize reference skills.

A crosstabulation of formats with cognitive levels reveals further distinctions between math and social studies activities. Half of the math activities at the level of APP-HMP are found in a single format, seatwork; another 17% of such activities occur in "recitation or SW" and 14% during checking work. Typically, these activities involve working with sets of word problems presented in the student text.

In social studies, most of the APP-MHP activities occur in one of the following formats - teacher presentations (34%), discussions (24%), or seatwork (27%). The first two of these formats often involve student discussion of questions which are scripted for teachers in the teacher's guides - e.g. (after a passage, in text 1, on immigration from European countries to American cities) "Imagine a schoolroom with children speaking different languages. What would be some of the main jobs of the school and the teacher?"; and (after a text 2 passage on the early building of railroads in America) "What would have been the benefits of linking the Atlantic coast with the Mississippi Valley? What people would have benefited the most? Can you think

of any people besides those mentioned who might have been unhappy about the coming of railroads?"

Social studies seatwork activities at the APP-HMP level, meanwhile, typically involve writing extended answers to text questions. Two examples (from different texts) follow:

1) "The year is 1900. You live with your family on a farm. Your father is thinking of selling the farm and moving to the city. He asks you to help him make the decision ... List the reasons you would like to move to the city. Then list the reasons you would like to stay on the farm. Compare your lists. Will you decide to move or to stay?"

2) "... Imagine you are a farmer on the frontier in the early 1800s. Write a diary for one day ... Imagine that you are a factory worker in New England in the early 1800s. Write a similer diary. Compere and contrast the two diaries. How are they alike? How are they different? Which life would you have preferred? Why?"

It should be noted that an activity was coded at the level of APP-HMP only if the overall aim of the activity seemed to be at that level - e.g. if the majority of text problems or scripted questions for the activity could be coded as APP-HMP. Consequently, some APP-HMP problems occur during math seatwork activities coded as "concepts-skills" and, some "concepts-skills" questions are found in social studies teacher presentations coded as APP-HMP.

Materials. Findings for recommended materials appear in Table 4. In both subjects, the student text is the resource most likely to be suggested for use (59% of math activities and 46% of social studies activities). The format of the text, however, differs substantially between subjects. Typically, a math text presents a short demonstration or example for each page or pair of pages. This text demonstration usually occupies less than a full page of text and, on the average, contains about 43 words (excluding numerical examples). Following the text demonstration are one or more sets of text exercises, each averaging 18 problems in length.

Social studies texts are largely expository: a lesson often covers several text pages, with an

average of 241 words appearing on a page. Fairly short sets of text exercises, averaging about 3 questions or activities per set, are interspersed among the expository text passages. Although the placement of text exercises varies among the social studies series, typical locations include: the ends of sections within chapters, the ends of chapters, the ends of sections within units, and the ends of units.

The usage of the text, in turn, varies between subjects. The primary use of the text in math activities is as a source of exercises or problems: problem sets are used in 50% of all math activities in our sample, while text demonstrations are used in about 15%. The social studies texts are used more often for their expository material (26% of all social studies activities) then for their problem sets (15% of all activities).

Subject matter differences appear, as well, in the degree to which several other types of materials are suggested for use. Materials largely specific to math include: the blackboard (16% of math activities vs. 4% of social studies activities), manipulatives (10% vs. 0%), worksheets (5% vs. less than 1%), and games (3% vs. less than 1%). Social studies, more so than math, involves the use of reference materials (20% of social studies activities vs. 1% of math activities), non-text maps (4% vs. less than 1%), or no materials (16% vs. 8%).

A substantial percentage of activities in both subjects (12% in math and 16% in social studies) were coded as involving the use of "other materials." Among math activities, this category was used primarily to indicate the presence of scripted problems or tables which could be incorporated into a worksheet or written on the blackboard (i.e. the teacher's guide suggested the problems, but did not specify the particular materials to be used). Such situations account for about 66% of the "other materials" in math. Student-made math materials such as problem cards and tables comprise about 10% of the "other materials," while "real-life" objects (cereal boxes, menus, catalogs, etc.) account for another 8%.

In social studies, about half of the "other materials" in social studies are student reports

(used during oral presentations) and another 17% are non-text pictures or photos. The rest of the "other materials" in social studies include a variety of objects: historical documents (e.g. the Declaration of Independence and the Bill of Rights), park brochures, hand-crafted products, a spinning wheel or loom, soil and water (for erosion demonstrations), and terrarium materials.

Variation Within Subject Areas. For each major variable discussed thus far, some variation among the series within each subject area can be noted. Several instructional formats, for example, seem highly series-dependent (see Table 1). In math, such formats include games, audiovisual (AV) work, and checking work. The first two formats are found almost exclusively in one math series (text 4). Games occur in 19% of the activities in text 4 and AV work occurs in 15%. The AV format is not found at all in the other four math series, while game formats occur on a limited basis (comprising less than 5% of the activities) in two of the other series. The checking work format, too, varies among math series, occurring in about 6% to 18% of the activities in three of the series and not at all in the other two.

Similar situations can be noted in social studies for groupwork and discussion formats. No groupwork is found in the suggested activities of two social studies series, while the percentage of groupwork in the other three series ranges from 3% to 18%. Although the discussion format occurs in all of the social studies series, it also varies considerably among texts. Percentages of discussion activities within series are as low as 3% and as high as 26%.

Student behaviors also fluctuate among series within subject areas (see Table 2). Some of this variation corresponds to the findings for instructional formats. Playing games and checking work, for example, vary among the math series; while discussing varies among social studies series. Research is another student behavior which differs among social studies series, ranging from 5% to 24% of the activities in a series.

Additional within-subject area variation is found in the cognitive level of activities and in the materials recommended for student use (see Tables 3 and 4). Social studies work at the

APP-HMP level, for example, accounts for anywhere between 5% and 35% of any one series' activities. As for materials, manipulatives are suggested in 4% to 22% of the activities in any one math series. Similarly, "other" materials occur in 2% to 21% of a math series' activities.

Priority of Activities. A substantial portion of the activities in both subject areas are optional activities - about 33% in math and 43% in social studies. These optional activities include many of the instructional characteristics which appear subject-specific and/or series-dependent. Social studies optional activities, for example, include 36% of all the discussion formats found in social studies, the majority of groupwork and student presentation formats, and most of the research and "other" student behaviors. In math, all of the formats and student behaviors coded as either games or AV are optional activities. As for cognitive levels, 54% of all the APP-HMP activities in math are optional and 30% of those in social studies are optional. Finally, with regard to materials, optional activities account for 39% of the math activities which recommend manipulatives, 88% of the social studies activities which involve references, and the majority of activities in both subjects which call for "other" materials.

Discussion

Our analyses reveal some similarities with the results of descriptive classroom studies. Traditional instructional patterns are readily apparent in the activities suggested in the math and social studies teacher's guides. The predominant grouping arrangement is whole-class, characteristic formats include recitation and seatwork, common student behaviors include answering "concepts-skills" questions, the most frequently-recommended student material is the textbook, and student interaction is rarely encouraged.

Although many of the activities in each subject area can be characterized as "traditional," some more innovative instructional patterns do appear. Math series, for example, sometimes

suggest activities which deviate from traditional "paper and pencil" seatwork - activities involving games, manipulatives, and "real-life" objects such as cereal boxes and menus. Among social studies activities, one finds recommendations for discussions (often aimed at "higher" cognitive levels), student research, and student presentations. One social studies series, in particular, contains frequent suggestions for peer groupwork.

Overall, the social studies teacher's guides appear to promote a more active role for students than do the math texts. Open-ended discussion, student research, and peer groupwork activities are compatible with an assumption that students are legitimate possessors and responsible pursuers of knowledge. Also compatible with this assumption are the greater possibility of student interaction and task options which occur in social studies.

To some extent, the subject matter variation which appears in suggested activities of the teacher's guides seems a reflection of the learning objectives emphasized in each subject. An explicit goal of fifth-grade social studies instruction, for example, is the development of research skills. In addition to acquiring a factual and conceptual base of social science knowledge from the text, students are encouraged to gain proficiency in seeking knowledge from other resources. A major objective in fifth-grade math instruction is the development of student competence with operations involving whole numbers, fractions, and decimals. This goal is evident in the sets of exercises which occupy most of the student text and in the frequency of math seatwork activities.

It is important to keep in mind, however, the extent to which instructional recommendations vary among the series <u>within</u> each subject area. "Less routine" practices are suggested in differing degrees. Also of note is the sizeable percentage of potentially more engaging practices which appear in optional activities. Clearly, the subject matter, the particular series, and the teacher's use of a particular series (e.g. which activities the teacher actually tries out in the classroom) <u>all</u> can play a large part in influencing the character of classroom instruction.

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Instructional Practice in Fifth-Grade Math and Social Studies: An Analysis of Teacher's Guides

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Tables to accompany AERA paper, San Francisco, April 1986

Table 1

Suggested Instructional Formats in Teacher's Guides

Instructional Format	% of Math Activities						% of Social Studies Activities					
		Text						Text				
	Overall	1	2	3	4	5	Overall	1	2	3	4	5
Recitation	12.6	28.2	8.4	19.0	2.1	10.4	11.5	25.5	2.0	8.4	12.1	5.5
Discussion	1.8	1.4	1.5	0.9	2.1	2.8	11.3	5.1	3.9	8.4	3.4	25.7
Lecture	0.6	0.0	0.0	0.0	0.0	2.8	2.5	1.0	2.0	3.6	5.2	1.8
Demonstration	4.5	0.0	6.9	3.8	0.0	9.4	0.8	0.0	0.0	3.6	0.0	0.0
Teacher Presentation	20.2	15.5	23.7	20.9	17.2	20.7	20.3	11.2	35.3	25.3	10.3	23.9
Seatwork (SW)	31.8	29.6	32.1	34.3	29.0	33.0	27.8	34.7	25.5	18.1	37.9	24.8
Recitation or SW	7.5	1.4	11.4	0.9	10.7	10.4	8.5	10.2	0.0	13.3	13.8	4.6
Check Work	7.1	12.7	6.1	18.1	0.0	0.0	0.2	0.0	0.0	1.2	0.0	0.0
Groupwork	1.4	2.8	1.5	0.0	0.0	2.8	3.8	0.0	17.6	3.6	0.0	2.7
SW or Groupwork	0.8	4.2	0.8	0.0	0.0	0.0	0.8	0.0	0.0	2.4	0.0	0.9
Audiovisual	2.8	0.0	0.0	0.0	15.1	0.0	0.5	1.0	2.0	0.0	0.0	0.0
Game	4.9	0.0	4.6	0.0	19.3	0.9	0.5	0.0	0.0	2.4	0.0	0.0
Student Presentation	0.6	0.0	0.8	0.0	1.1	0.9	8.8	11.2	9.8	4.8	12.1	7.3
Test	1.8	2.8	1.5	0.9	1.1	2.8	0.5	0.0	0.0	0.0	3.4	0.0
Trip	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	1.2	0.0	1.8
Preparation	1.2	1.4	0.0	0.9	1.1	2.8	1.5	0.0	2.0	3.6	1.7	0.9
Other	0.4	0.0	0.8	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
n	506	71	131	105	93	106	399	98	51	83	58	109

Table 2

Suggested Student Behaviors in Teacher's Guides

Student Behavior	% of Math Activities						% of Social Studies Activities					
		Text						Text				
	Overall	1	2	3	4	5	Overall	1	2	3	4	5
Question-Answer (Q-A)	8.7	23.9	9.2	4.8	3.2	6.6	3.8	6.1	0.0	6.0	3.4	1.8
(SS) Discuss	1.8	1.4	1.5	0.9	2.1	2.8	11.8	5.1	7.8	8.4	3.4	25.7
Listen	6.3	1.4	6.9	4.8	0.0	16.0	13.0	12.2	11.8	14.5	19.0	10.1
Q-A-Discuss-Listen	16.0	11.3	23.7	18.1	4.3	17.9	9.8	9.2	9.8	14.5	3.4	11.0
(SS) Read - Orally or Silently	0.2	0.0	0.8	0.0	0.0	0.0	6.5	5.1	5.9	8.4	17.2	0.9
(SS) Read & Q-A-Discuss	0.0	0.0	0.0	0.0	0.0	0.0	16.0	14.3	25.5	14.5	8.6	18.3
(M) Solve	33.4	31.0	30.5	33.3	44.1	29.2	2.0	4.1	2.0	0.0	1.7	1.8
(M) Solve & Q-A-Discuss	5.1	7.0	0.8	2.9	15.1	2.8	0.0	0.0	0.0	0.0	0.0	0.0
(SS) Write	0.0	0.0	0.0	0.0	0.0	0.0	6.5	7.1	11.8	6.0	3.4	5.5
Answer - Mode Unknown	7.9	1.4	13.0	0.9	10.8	10.4	3.0	6.1	0.0	3.6	0.0	2.7
(SS) Research	0.8	0.0	1.5	0.0	2.1	0.0	15.3	19.4	15.7	4.8	24.1	14.7
(M) Blackboard - Watch	3.8	4.2	0.0	12.4	2.1	0.9	0.0	0.0	0.0	0.0	0.0	0.0
(M) Check Work	6.5	9.9	5.3	18.1	0.0	0.0	0.3	0.0	0.0	1.2	0.0	0.0
(M) Play Games	1.4	0.0	0.0	0.0	6.4	0.9	0.0	0.0	0.0	0.0	0.0	0.0
Audiovisual Work	0.6	0.0	0.0	0.0	3.2	0.0	0.5	1.0	2.0	0.0	0.0	0.0
Map/Graphwork	2.6	2.8	1.5	0.9	0.0	7.5	6.3	8.2	5.9	9.6	6.9	1.8
(SS) Craftwork	0.2	0.0	0.0	0.0	1.1	0.0	2.0	1.0	0.0	1.2	3.4	3.7
(M) Test	1.8	2.8	1.5	0.9	1.1	2.8	0.5	0.0	0.0	0.0	3.4	0.0
Other	3.0	2.8	3.8	1.9	4.3	1.9	2.8	1.0	2.0	7.2	1.7	1.8
n	506	71	131	105	93	106	399	98	51	83	58	109

(M) = Suggested predominantly or exclusively for math activities

(SS) = Suggested predominantly or exclusively for social studies activities

Table 3

Expected Cognitive Level

Cognitive Level	% of Math Activities						% of Social Studies Activities					
		Text						Text				
	Overall	1	2	3	4	5	Overall	1	2	3	4	5
Non-cognitive	0.6	1.4	0.0	0.0	1.1	0.9	1.7	1.0	3.9	0.0	1.7	2.7
Facts-Knowledge	3.2	4.2	2.3	2.9	1.1	5.7	25.8	22.4	17.6	14.5	37.9	34.9
Concepts-Skills	79.1	81.7	78.6	82.9	88.2	66.0	27.6	35.7	19.6	33.7	24.1	21.1
Research Skills	4.3	1.4	5.3	1.9	2.1	9.4	23.6	30.6	23.5	16.9	31.0	18.3
Application-Higher Mental Processes	12.8	11.3	13.7	12.4	7.5	17.9	21.3	10.2	35.3	34.9	5.2	22.9
n	506	71	131	105	93	106	399	98	51	83	58	109

Table 4

Materials

Materials	% of Math Activities						% of Social Studies Activities					
		Text						Text				
	Overall	1	2	3	4	5	Overall	1	2	3	4	5
No Materials	8.5	11.3	7.6	3.8	6.4	14.2	16.5	8.2	7.8	25.3	10.3	24.8
Student Text	58.9	66.2	47.3	83.8	44.1	56.6	46.4	45.9	56.9	37.3	46.5	48.6
Worksheet	4.9	1.4	3.8	0.0	19.4	0.9	0.3	0.0	2.0	0.0	0.0	0.0
Reference Materials	1.4	1.4	2.3	0.0	3.2	0.0	19.6	23.5	25.5	7.2	29.3	17.4
Blackboard	15.8	18.3	14.5	24.8	7.5	14.2	3.8	8.2	2.0	3.6	3.4	0.9
Maps (not in text)	0.2	0.0	0.0	0.9	0.0	0.0	4.5	2.0	5.9	7.2	5.2	3.7
Manipulatives	10.3	22.5	7.6	7.6	15.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0
Craft Supplies	2.4	5.6	3.8	4.8	2.1	0.9	4.8	1.0	5.9	7.2	6.9	4.6
Games	3.0	0.0	3.8	0.0	9.7	0.9	0.3	0.0	0.0	1.2	0.0	0.0
Audiovisual Equipment	3.8	0.0	0.0	0.9	17.2	1.9	1.5	2.0	2.0	1.2	1.7	0.9
Other Materials	11.7	5.6	20.6	1.9	6.4	18.9	16.5	15.3	13.7	20.5	20.7	13.8
n	506	71	131	105	93	106	399	98	51	83	58	109

Note. Entries in each column do not sum to 100%. Multiple materials could be in use during one activity - e.g. a math recitation might involve the use of the student text, blackboard, and manipulatives. Thus, each type of material listed in the table represents a separate variable.

Most Commonly Used Math Series (Grades 4-6)[1]

Textbook/Program	Publisher
Holt School Mathematics, 1974	Holt, Rinehart & Winston
Modern School Mathematics: Structure and Use, 1972	Houghton Mifflin Co.
Mathematics Around Us: Skills and Applications, 1971	Scott, Foresman & Co.
Investigating School Mathematics, 1973	Addison-Wesley Publishing Co.
Elementary School Mathematics, 1971	Addison-Wesley Publishing Co.

Most Commonly Used Social Studies Series (Grades 4-6)[2]

Textbook/Program	Publisher
Exploring Series, 1971	Follett Publishing Co.
Social Sciences: Concepts and Values, 1975	Harcourt Brace Jovanovich, Inc.
Laidlaw Social Science Program, 1974	Laidlaw Brothers
Contemporary Social Science Curriculum, 1972	Silver Burdett Co.
Man and His World Series, 1974	Noble & Noble Publishers, Inc.

[2] From Weiss (1978)